

PA FISH AND BOAT COMMISSION
COMMENTS AND RECOMMENDATIONS
July 23, 2012

WATER: Unnamed Tributary (Near Hometown's Park) Schuylkill County
Little Schuylkill River
Lat/Lon: 404849755845

EXAMINED: July 25, 2006

BY: Chikotas, Hersch, Wolesslagle, Knadler

Bureau Director Action: [Signature] Date: 7/27/12

Division Chief Action: [Signature] Date: 7/24/12

CW Unit Leader Action: R. Thomas Muen Date: 7/24/12

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AREA COMMENTS:

The Unnamed Tributary to the Little Schuylkill River, near Hometown, is a 1.3 km (0.81 mi.) long stream located in sub-subbasin 603A, Rush Township, Schuylkill County. The PFBC's Area 6 Fisheries Management staff surveyed the stream in July 2006 to quantify the wild trout population. The survey was conducted following a request from the local Waterways Conservation Officer, who indicated that the stream supported a wild trout population. A Class A wild brook trout population was documented in the stream with a total biomass estimate of 35.92 kg/ha.

AREA RECOMMENDATIONS:

1. Manage the Unnamed Tributary to the Little Schuylkill River under Commonwealth Inland Waters angling regulations.
2. Add the Unnamed Tributary to the Little Schuylkill River to the PFBC's Class A wild trout waters list and the list of streams that support natural reproduction of trout.
3. Based on the presence of a Class A wild brook trout population, the DEP 25 PA Code Chapter 93 Water Quality Standards for the Unnamed Tributary to the Little Schuylkill River should be upgraded from CWF to HQ-CWF.

DIVISION CHIEF COMMENTS:

The Unnamed Tributary to the Little Schuylkill River (Near Hometown's Park) was designated as a Class A wild trout water and added to the list of streams that supports natural reproduction of trout.

Distribution

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**Pennsylvania Fish & Boat Commission
Bureau of Fisheries
Fisheries Management Division**

UNT to Little Schuylkill River (603A) Hometown's Park)
Fisheries Management Report

Prepared by
B. Chikotas and M. Kaufmann

Fisheries Management Database Name: UNT To Little Schuylkill River
(Hometown's Park)
Lat/Lon: 404849755845

Date Sampled: July 25 and 26, 2006 Date Prepared: June 2007

Abstract

The Unnamed Tributary to the Little Schuylkill River, near Hometown, is a 1.3 km (0.81 mi.) long stream located in sub-subbasin 603A, Rush Township, Schuylkill County. The stream originates from a spring fed pond at an elevation of 332 meters (m) (1,091 ft.) and flows through a hemlock and mixed hardwood forest with rhododendron in the understory, which provides dense shading. The stream flows in a southwesterly direction, enters the Little Schuylkill River at River Mile (RM) 24.90, 40°48'49" latitude and 75°58'45" longitude, and has a drainage area of 4.6 km² (2.9 mi²). The Unnamed Tributary to the Little Schuylkill River is located on the Tamaqua, PA, United States Geological Survey (USGS) 7.5-minute quadrangle (Figure 1). For management purposes, the stream is considered to be one section from the headwaters downstream to the mouth and flows through a mixture of public (19%) and private (81%) ownership.

The Unnamed Tributary to the Little Schuylkill River was surveyed on July 25 and 26, 2006, to quantify the wild trout population. Fish were captured using a backpack electrofisher, the components of which were a TAS generator and a Coffelt (BP-1C) variable voltage electrofisher. In addition, aquatic macroinvertebrates were identified to the familial level and were assigned pollution tolerance index values according to a combination of those developed by or through Illinois EPA (1989), EA Mid-Atlantic Regional Operations Engineering, Science and Technology, Inc (1990), Klemm et al. (1990), RMC Environmental Services, Inc. (1991) and PFBC field experience. The survey was conducted following a request from the local Waterways Conservation Officer who indicated that the stream supported a wild trout population. The wild trout population was quantified using a Petersen mark

recapture population estimate. One representative station (0101) was sampled to characterize the stream. The 300 m long station averaged 3.5 m in width and comprised twenty-three percent of the total stream length. Station 0101 was located 30 m upstream of State Route 309 at RM 0.17, 40°48'57" latitude and 75°58'41" longitude (Figure 1).

Chemical-physical parameters and their associated values measured under normal flow conditions were as follows: air temperature 17.0°C, water temperature 10.0°C, specific conductance 80 umhos, pH 6.6 standard units, total alkalinity 11 mg/l, and total hardness 12 mg/l.

The stream was characterized as being very shallow with water trickling around the rocky substrate in many places. Short shallow pools, generally less than 0.5 m deep, separated long shallow riffles and runs. The stream's substrate consisted of rubble, gravel, and sand with some bedrock and boulder. Stream bank erosion ranged from moderate to heavy with severe erosion in places. Habitat for fish consisted of a few undercut banks, water depths in pools, and occasional woody debris. Habitat quality and quantity for adult trout was poor and restricted to pools with sufficient depth to provide protection. The stream exhibited recent storm water damage in the form of a scoured channel, newly eroded stream banks, and channel braiding at one location due to a severe flooding event that occurred during June 2006.

Aquatic macroinvertebrate diversity was poor with only 8 taxa in the collection (Table 1). The collection included one mayfly family, two stonefly families, and two caddisfly families. Only Peltoperlidae, a stonefly family that is very intolerant of pollution, was rated abundant. The presence of Peltoperlids in abundance indicated that long-term water quality was good in this stream.

Three fish species were collected at Station 0101: blacknose dace *Rhinichthys atratulus*, golden shiner *Notemigonus crysoleucas*, and wild brook trout *Salvelinus fontinalis* (Table 2). One hundred seventy-eight wild brook trout ranging in length from 25 mm to 224 mm total length (TL) were collected from the 300 m long sampling station. The total biomass and abundance of brook trout was 35.92 kg/ha and 897 trout/km, respectively (Table 3). Just over three percent of the brook trout population and 17.1 percent of the estimated brook trout biomass was comprised of legal length trout (\geq 175 mm TL; 7 in). Of the 178 trout collected during two electrofishing passes, nine were of legal length (Table 4). Based on a section length of 0.81 miles (1.3 km), this translates into an estimated total of 39 legal length wild brook trout ranging from seven to eight inches in length in Section 01. Reproduction was excellent as trout \leq 99 mm TL comprised 32.4% of the total estimated biomass. The potential for this small stream to support

angling pressure was limited by its narrow channel width, small drainage area, and paucity of adult trout habitat.

Currently, the Unnamed Tributary to Little Schuylkill River (Hometown's Park) is classified as a Coldwater Fishery (CWF) in the 25 PA Code Chapter 93 Water Quality Standards. Based on the presence of a Class A wild brook trout population, the 25 PA Code Chapter 93 Water Quality Standards should be upgraded to High Quality-Cold Water Fishery (HQ-CWF).

Management Recommendations

1. Manage the Unnamed Tributary to the Little Schuylkill River under Commonwealth Inland Waters angling regulations.
2. Add the Unnamed Tributary to the Little Schuylkill River to the PFBC's Class A wild trout waters list and the list of streams that support natural reproduction of trout.
3. Based on the presence of a Class A wild brook trout population, the 25 PA Code Chapter 93 Water Quality classification for the Unnamed Tributary to Little Schuylkill River should be upgraded from CWF to HQ-CWF.

Literature Cited

- EA Mid-Atlantic Regional Operations Engineering, Science and Technology, Inc. 1990. Freshwater macroinvertebrate species list including tolerance values and functional feeding group designations for use in rapid bioassessment protocols. Prepared for the U.S. EPA, Washington, DC.
- Illinois EPA. 1989. Biological stream characterization: a biological assessment of Illinois stream quality. Special Report #13, Illinois State Water Plan Task Force, Division of Water Pollution Control. Springfield, IL.
- Klemm, D.J., P.A. Lewis, F. Fulk, and J.M. Lazorchak. 1990. Macroinvertebrate field and laboratory methods for evaluating the biological integrity of surface waters. U.S. EPA, Cincinnati, OH.
- RMC Environmental Services, Inc. 1991. Post-diversion aquatic biology assessment for 1990. Prepared for the Philadelphia Electric Company, Philadelphia, PA.

Table 1. Aquatic macroinvertebrate taxa collected from the Unnamed Tributary to the Little Schuylkill River (603A), River Mile 0.17, Schuylkill County, July 25, 2006.

Taxon	Station 0101	PTI
Ephemeroptera		
Baetidae	X	7
Plecoptera		
Peltoperlidae	*	1
Perlidae	X	3
Trichoptera		
Hydropsychidae	X	4-8
Limnephilidae	X	4
Odonata		
Gomphidae	X	4
Diptera		
Tipulidae	X	4
Decapoda		
Cambaridae	X	6
Total taxa	8	

X = Present, * = Abundant, NA = not available.

PTI = Pollution Tolerance Index; PTI ranges from 0-10, very intolerant to very tolerant of pollution according to a combination of those indices developed by or through Illinois EPA (1989), EA Mid-Atlantic Regional Operations Engineering, Science and Technology, Inc. (1990), Klemm et al. (1990), RMC Environmental Services, Inc. (1991) and PFBC field experience.

Table 2. Fish species occurrence in the Unnamed Tributary to the Little Schuylkill River (603A), Schuylkill County on July 25, 2006.

Scientific Name	Common Name
<i>Salvelinus fontinalis</i>	Brook trout
<i>Rhinichthys atratulus</i>	Blacknose dace
<i>Notemigonus crysoleucas</i>	Golden Shiner
Total	3

Table 3. Wild brook trout abundance and biomass estimate for Station 0101 of the Unnamed Tributary to the Little Schuylkill River (603A), Schuylkill County determined July 2006.

Length group (mm)	Population estimate	Number/ha	Kg/ha	Number/km
25	1	10	0.01	3
50	170	1,619	9.88	567
75	23	219	1.75	77
100	15	143	2.18	50
125	27	257	6.48	90
150	24	229	9.49	80
175	8	76	5.27	27
200	1	10	0.86	3
Total	269	2,563	35.92	897

Table 4. Summary and descriptive statistics for Station 0101 of the Unnamed Tributary to the Little Schuylkill River (603A), Schuylkill County, determined July 2006. Trout numbers represent the number of individual fish collected in two electrofishing passes.

Species	Site RM	Site Length (m)	Site Width (m)	Site Area (h)	Total #	# Legal >175	# $\geq 225\text{mm}$	# $\geq 300\text{mm}$
Brook Trout	0.17	300	3.5	0.1	178	9	0	0

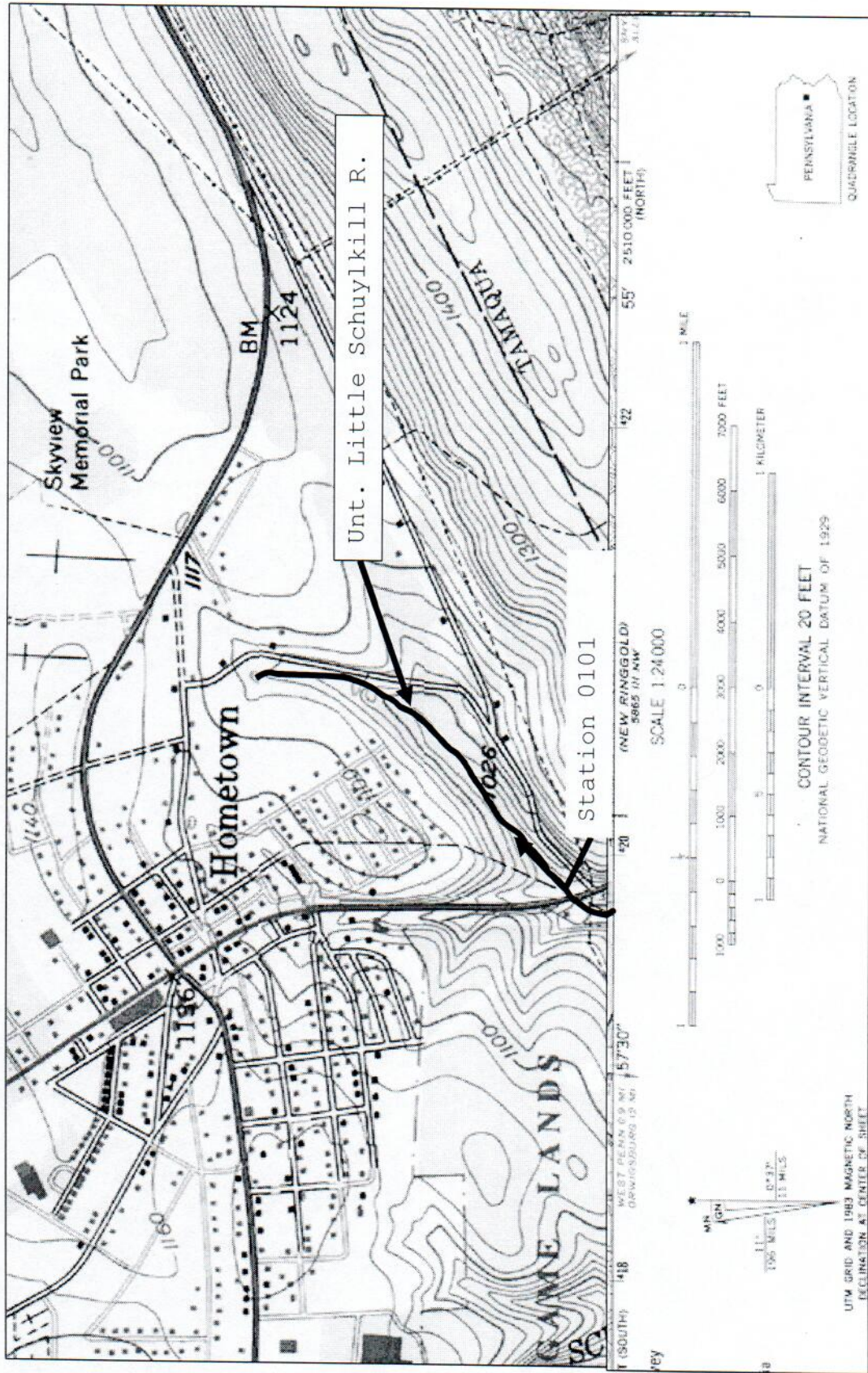


Figure 1. Location map for the Unnamed Tributary to the Little Schuylkill River (603A), near Hometown, Schuylkill County.